



## Smoking Out Judicial Treatment of *NFPA 921*

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**Courts will become increasingly familiar with the principles set forth in the “Gray’s Anatomy” of fire investigations.**

# Guide for Fire and Explosion Investigations

Every product liability attorney knows that a case often turns on the credibility and opinions of experts. In most cases, the evidentiary ball begins rolling before a file hits an attorney’s desk so that potential defense theories

become limited by decisions made before legal involvement. On rare occasions, a fire or explosion scene is preserved so that you and your expert can conduct a thorough inspection and examine all evidentiary possibilities. In either situation, it is an attorney’s task to evaluate an expert’s theories to determine viability, adherence to peer-reviewed methodologies, and if the opinions are based on recognized science. In cases involving fire and explosion, one resource is increasingly becoming a crucial reference for both the expert and attorney: *NFPA 921: Guide for Fire and Explosions Investigations (NFPA 921)*.

When first published by the National Fire Protection Association (NFPA) in 1992, *NFPA 921* began promulgating the means and methods of proper fire investigations to prevent prejudice to involved parties that sometimes results from careless or rushed scene inspections. *NFPA 921* has emerged as the prevailing author-

ity among fire investigators for everything from providing initial notice of a fire, to the procedures under which a proper lab examination is to be conducted, and all steps in between.

In addition to providing the standard methodology for fire investigations, *NFPA 921* contains product-specific chapters for the investigation of fires, including: Building Fuel Gas Systems (Chapter 9); Appliances (Chapter 24); Motor Vehicles (Chapter 25); and Marine Fire Investigations (Chapter 26).

The product chapters of *NFPA 921* detail specific scientific methods for various products that no attorney can afford to ignore. Whether your case involves an obscure analysis to identify defects in crop-drying heaters or the use of “de-layering” in tracing the origin of a fire to the ignition switch of a motor vehicle, *NFPA 921* provides peer-reviewed methodologies. If your case involves a simple bead on the end of a copper wire or a “V” pat-



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tern over your product, *NFPA 921* sets forth the variables to consider in forming an opinion based on accepted fire science.

Courts presiding over product liability cases have routinely used *NFPA 921* as a guidepost to determine whether an expert's opinions were formulated through reliable, scientifically tested means. In a product case, *NFPA 921* requires an expert to base

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his or her theory on empirical evidence. Referencing *NFPA 921*, courts have discounted testimony where experts' theories did not contemplate the full set of fire scene evidentiary variables.

With increasing frequency, some courts have ruled that the failure to adhere to *NFPA 921* principles in developing an investigation methodology or reaching a conclusion justifies granting motions to preclude an investigator's opinions. Other courts have hesitated to recognize *NFPA 921* as the authority on fire scene investigation methodology. Before your investigator sets foot in your next fire scene, you should become familiar with the developments in your jurisdiction.

The cases presented below in the following jurisdictions have analyzed *NFPA 921* as an industry standard for the methodology of fire investigations. If no reported cases were found for the treatment of *NFPA 921* by a state, some unreported cases were found that may be indicative of future treatment by those courts. Please note that not every state has addressed the authority of *NFPA 921* in an evidentiary challenge under *Daubert* or *Frye*.

### **Colorado, Kentucky, Nebraska, Ohio, and the Eighth Circuit**

The decisions in the following cases strongly favor expert testimony reliability predicated on a strict adherence to *NFPA 921*.

#### **Colorado**

In *Farmland Mutual Insurance Companies v. Chief Industries*, 170 P.3d 832 (Colo. App.

2007), the court recognized that "a number of courts have held that the Guide for Fire and Explosion Investigations published by the National Fire Protection Association (*NFPA 921*)... is an accepted reference for fire investigators." In *Farmland*, an expert sought to determine that a crop-drying heater was the origin of a fire by using the process of elimination. The court analyzed the process of elimination through the lens of *NFPA 921* to determine that "pursuant to *NFPA 921*, the process of elimination is an accepted scientific technique." *Id.* at 836.

#### **Kentucky**

An expert's use of *NFPA 921* to investigate a crime scene where a domestic disturbance resulted in the ignition and burning of an adult female was a reliable methodology and rendered the expert's testimony about the investigation admissible. *Hibbett v. Com.*, not reported in S.W.3d, 2007 WL 706855 (Ky. App. Mar. 09, 2007).

#### **Nebraska**

The court in *Perry Lumber Co., Inc. v. Durable Services, Inc.*, 271 Neb. 303, 710 N.W.2d 854 Neb. (Neb. 2006), overturned the trial court's conclusion that testimony by a purported expert should only be considered as lay testimony. In allowing the witness to testify as an expert, the Supreme Court of Nebraska recognized that the contested expert relied on *NFPA 921* in his investigation, the other experts involved in the case conducted their investigation pursuant to *NFPA 921*, and other courts accepted *NFPA 921* methodology. *Id.* at 311.

#### **Ohio**

Reversing the trial court's entry of summary judgment for the defendant, the Ohio Court of Appeals held that the plaintiff's expert's testimony was admissible because the expert relied on *NFPA 921*, he adhered to *NFPA 921*, and the scientific method provided sufficient evidence in the record to warrant reversal of summary judgment. *Gilmore v. Village Green Mgt. Co.*, slip copy, 2008 WL 4174883 (Ohio App. 8 Dist. 2008).

#### **The Eighth Circuit**

The court in *Fireman's Fund Ins. Co. v. Canon U.S.A., Inc.*, 394 F.3d 1054, 1057-58 (8th Cir. 2005), used the principles of *NFPA 921* to conclude that experts' opinions were

flawed because their theories were inconsistent with the empirical evidence. The contested expert testimony theorized that the failure of a thermal fuse in a copier allowed a malfunction of the copier's heater control circuitry to cause a fire. The experts were unable, however, to replicate the theory in tests. Furthermore, examination of the involved copier revealed that the heating element, on which the experts' theory turned, was not energized when the thermal fuse opened, a fact omitted from their theory. The Eighth Circuit concluded that as a result of the experts' failure to apply their theories to the evidence, they "did not apply the principles and methods of *NFPA 921* reliably to the facts of the case." *Id.* at 1059-60.

### **Louisiana, New York and Rhode Island**

The decisions in the following jurisdictions illustrate instances where *NFPA 921* was used as a demonstrative tool to both validate the reliability of an expert's opinion and shed light on the merits of the factual issues involved in the case.

#### **Louisiana**

One of the first appellate decisions to mention the use of *NFPA 921* was the Louisiana case, *B. Bennett Mfg. Co. v. South Carolina Ins. Co.*, 692 So. 2d 1258 (La. App. 5 Cir. 1997). In *B. Bennett*, South Carolina Ins. Co. presented an expert who testified about the temperature at which metal would bend to introduce the likelihood that an accelerant was used to start a fire. Attorneys for B. Bennett Mfg. Co. introduced portions of *NFPA 921* to contradict the temperatures at which South Carolina Ins. Co.'s expert contended metal would bend. The Louisiana appellate court recognized that *NFPA 921* was used in this case to provide the jury with another "reasonable theory" as an alternative to the theory of South Carolina Ins. Co.'s expert. *Id.* at 1263.

The fire that gave rise to the initial complaint in *B. Bennett Mfg. Co.* occurred in September 1992, the same year that the National Fire Protection Association first published *NFPA 921*. Notably, courts and experts alike willingly embraced the principles of *NFPA 921* soon after its initial publication.

#### **New York**

In *Ficic v. State Farm Fire & Cas. Co.*, 9

Misc.3d 793, 804 N.Y.S. 2d 541 (N.Y. Super. 2005), the court, hearing post-trial motions to set aside the jury verdict, was skeptical of the plaintiff's expert's qualifications as an arson investigator. The New York court determined that an association to which the challenged expert and other arson investigators belonged, the International Association of Arson Investigators (AAIA), adopted *NFPA 921* as the standard for fire investigations. The New York court, therefore, sua sponte, provided sections of *NFPA 921* to counsel for both sides for their comments on how *NFPA 921* affected their respective posttrial motions.

### Rhode Island

*Dodson v. Ford Motor Co.*, not reported in A.2d, 2006 WL 2405868 (R.I. Super. 2006), paid very close attention to *NFPA 921* and its provisions for determining the origin of an automobile fire. In *Dodson*, the plaintiff's expert sought to testify about using the "de-layering" method to conclude that the origination of a fire was the ignition switch of a motor vehicle. The Superior Court of Rhode Island recognized that credentials alone do not ensure the reliability of an expert's methodologies, but in this instance, the expert's methodologies to determine the fire's origin accorded with *NFPA 921* and, as such, were admissible under *Daubert*. The Rhode Island court refused, however, to permit the expert to testify about the cause of the fire because he based his opinion "not on the physical evidence as recommended by *NFPA 921* but, rather, on documents produced... during discovery." *Id.* at 8.

### Connecticut, Florida, Kansas Minnesota, Michigan, Texas and Utah

The following cases exhibit reluctance by some courts to require absolute adherence to *NFPA 921* as a precursor to a finding that expert testimony is reliable.

#### Connecticut

The court in *Jordan v. Yankee Gas Services Co.*, not reported in A.2d, 2006 WL 280478 (Conn. Super. 2006), refused to bar testimony of experts solely because they did not follow the procedures and methods in *NFPA 921*. The plaintiff claimed that a water heater was defective because it was not on an 18-inch stand. In seeking to bar the defendant's cause and origin experts,

the plaintiff claimed that the experts' failure to adhere to *NFPA 921* in their investigation rendered their testimony unreliable. The Connecticut court disagreed, stating that *NFPA 921* "may now be the preferred fire investigative method, but it was never intended to invalidate or supplant all other valid scientific methods." *Id.* at 6.

#### Florida

In *St. Cyr v. Flying J, Inc.*, slip copy, 2008 WL 2608127 (M.D. Fla. 2008), the court recognized *NFPA 921*'s widespread acceptance as an industry standard, but emphasized the court's role as a gatekeeper for the admissibility of evidence. The Florida court held that its job was not to determine which expert theory was the most compelling. The Florida court allowed a challenged expert's testimony because "... the expert's methodology is rooted in the widely accepted standards and guidelines set forth by the N.F.P.A." *Id.* at 6.

#### Kansas

In *State v. Green*, 283 Kan. 531, 153 P.3d 1216 (Kan. 2007), the defendant cited *NFPA 921* and its amendments, arguing that advances in science and fire investigation methods rendered the initial investigation of the fire inaccurate, in a case in which she pled guilty to arson. While the Supreme Court of Kansas refused to grant the Defendant's motion to withdraw her plea on other grounds, this case illustrates the importance of the changes that occur in the field of fire investigation and the constant evolution of *NFPA 921* procedures.

#### Michigan

In this case, a defendant's assertion that an expert's investigation was not a "carbon copy" of *NFPA 921* was ruled insufficient to bar the expert's testimony because the expert's "methodology appeared reasonable and was by and large in keeping with the guidelines recommended by *NFPA 921*." *People of Michigan v. Jackson*, not reported in N.W.2d, 2008 WL 2037805 (Mich. App. 2008).

#### Texas

In *Davis v. State*, 147 S.W.3d 554 (Tex. App.—Waco 2004), the defendant sought to reverse his conviction for arson on the grounds that the fire investigators failed to use *NFPA 921*

investigation methods. The Texas court refused the defendant's request to take judicial notice of *NFPA 921* where no prior Texas decisions recognized *NFPA 921* as a reliable methodology in investigating arson fires.

In *Proffit v. State*, not reported in S.W.3d, 2003 WL 22512074 (Tex. App.—Houston (1 Dist.) 2003), the court ruled that while the expert's testing method to determine flammability of an indirectly ignited chair differed from the furniture industry standard in testing ignition of upholstery by a direct flame, the expert's tests were conducted pursuant to *NFPA 921*. The Texas court acknowledged that *NFPA 921* methodology was considered reliable within the scientific community, and thereby permitted the testimony.

#### Utah

The court in *State v. Schultz*, 58 P.3d 879 (Utah App. 2002), referenced *NFPA 921* to decide that the use of canines to help detect accelerants as part of a fire investigation was a "generally accepted" scientific practice.

### Two Practice Tips

#### Use *NFPA 921* as a Benchmark

If an expert has not strictly adhered to all sections of *NFPA 921*, use those provisions the expert disregarded to either cross-examine or rehabilitate a witness. Depending on the situation, *NFPA 921* can cast doubt on an expert's theory or, in turn, provide credibility.

#### *NFPA 921* Is Amended Every Three Years

Determine whether an expert is utilizing the most recent edition of *NFPA 921* to conduct his or her investigation because it is revised every three years. For example, the 2007 version of *NFPA 921* includes revised chapters, 5, 6, 17, 25, and 27, and a new chapter, Chapter 28, on Marine Fire Investigations. An expert's failure to rely on or lack of awareness of the most recent version of *NFPA 921* can adversely affect his or her opinions or credibility.

### Conclusion

Just as physicians have established that *Gray's Anatomy* is the most well-accepted, comprehensive reference guide to the human body, fire investigators should increase **Fire/Explosion**, continued on page 80

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ingly recognize that *NFPA 921: A Guide for Fire and Explosions* is the “gold standard” in the field of fire science. As lawyers and experts turn to *NFPA 921* to help explain the

peer-reviewed methodology behind particular origin and cause theories to judges and juries, the courts will become increasingly familiar with the principles set forth therein. The degree to which the courts in

your jurisdiction currently treat *NFPA 921* as a well-accepted treatise on fire science must be considered at the outset of your product liability case to evaluate the methodology and/or opinion of fire experts. 